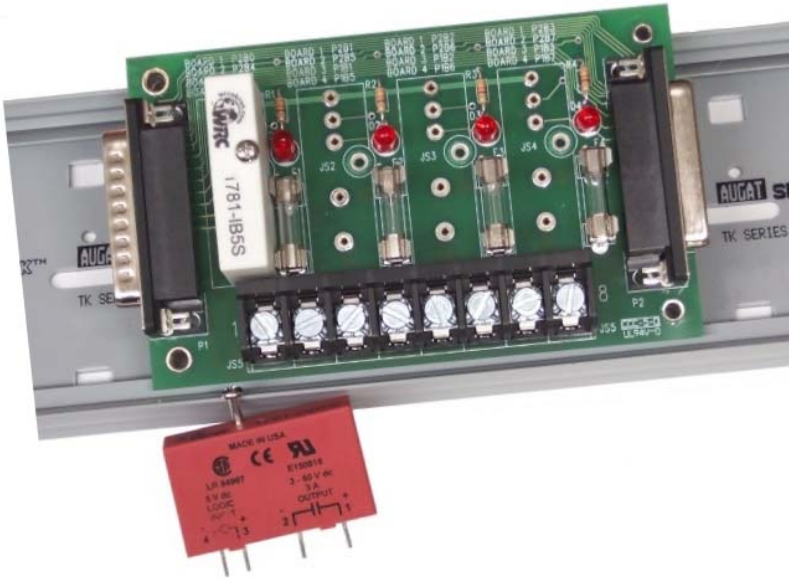
Integrity Instruments

P.O. Box 451
Pine River Minnesota
56474 USA

Order Phone 800-450-2001
Fax Phone 218-587-3414
Tech Phone 218-587-3120

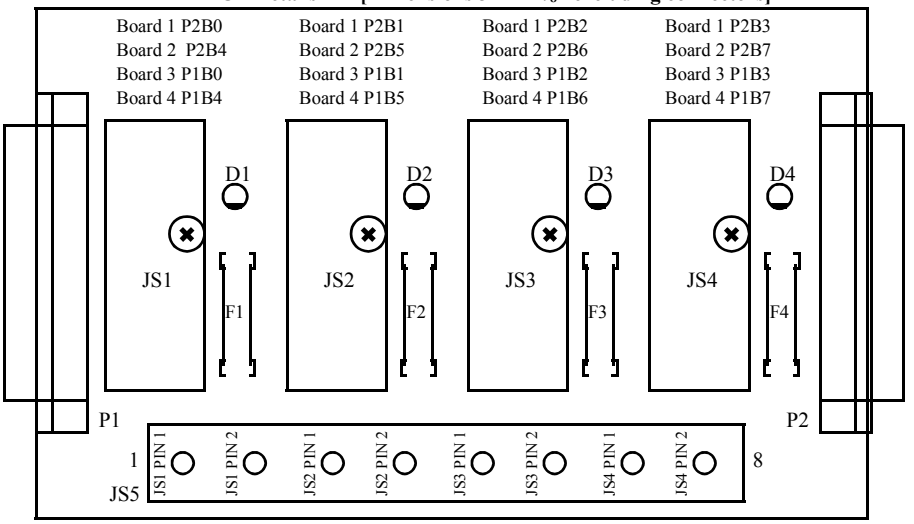
http://www.integrityusa.com



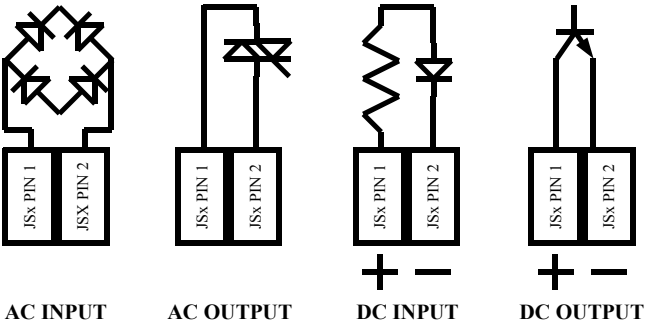
EXP-STA
EXP-TRK

Digital I/O
Mounting Boards

EXP-X PCB Details [Dimensions 3" x 4 7/8" excluding connectors]



	JS1 (I/O Module		JS2 (I/O Module)		JS3 (I/O Module)		JS4 (I/O Module)	
	JS1 PIN 1	**JS1 PIN 2**	**JS2 PIN 1**	**JS2 PIN 2**	**JS3 PIN 1**	**JS3 PIN 2**	**JS4 PIN 1**	**JS4 PIN 2**
JS5 Terminal Strip	PIN 1	PIN 2	PIN 3	PIN 4	PIN 5	PIN 6	PIN 7	PIN 8



I/O Modules

The module inputs and outputs are connected to JS5. In the case of DC units polarity must be observed, and is shown above. There are many other modules which can be used, the only criteria being that the internal logic levels must be 5 vdc.

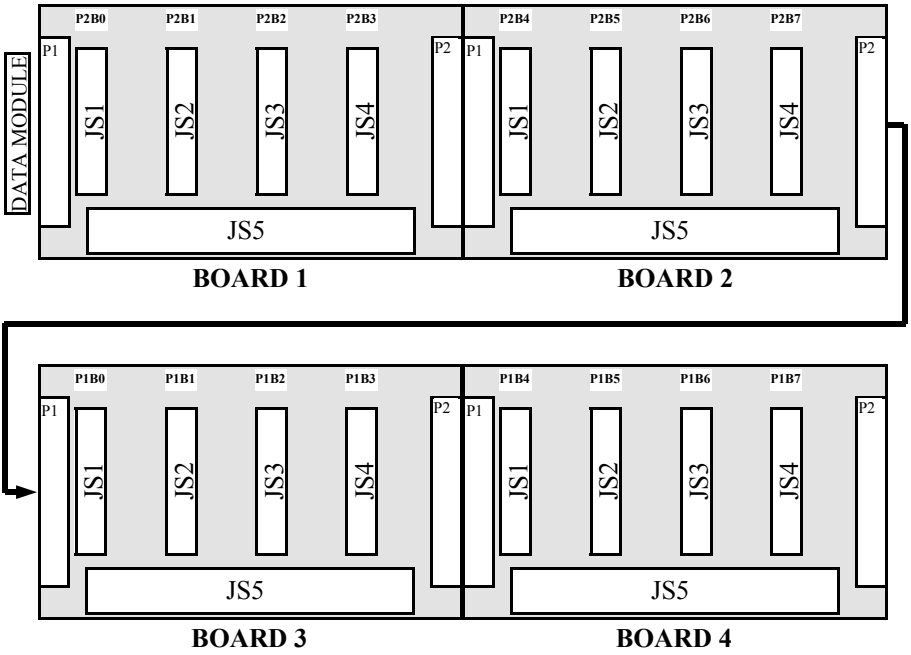
Fuses are 5 x 20 mm, 3.15 amp

The table below shows some of the manufacturers, and some of the applicable modules.

Module Color	Module type	Crouzet (Gordos)	Grayhill	Opto22	Potter & Brumfield	WRCAkron
WHITE	DC Input	IDC5	70-IDC5B	IDC5	IDC-5	1781-IB5S
RED	DC Output	ODC5	70-ODC5	ODC5	ODC-5	1781-OB5S
YELLOW	AC Input	IAC5	70-IAC5	IAC5	IAC-5	1781-IA5S
BLACK	AC Output	OAC5	70-OAC5	OAC5	OAC	1781-OA5S

Position Numbering

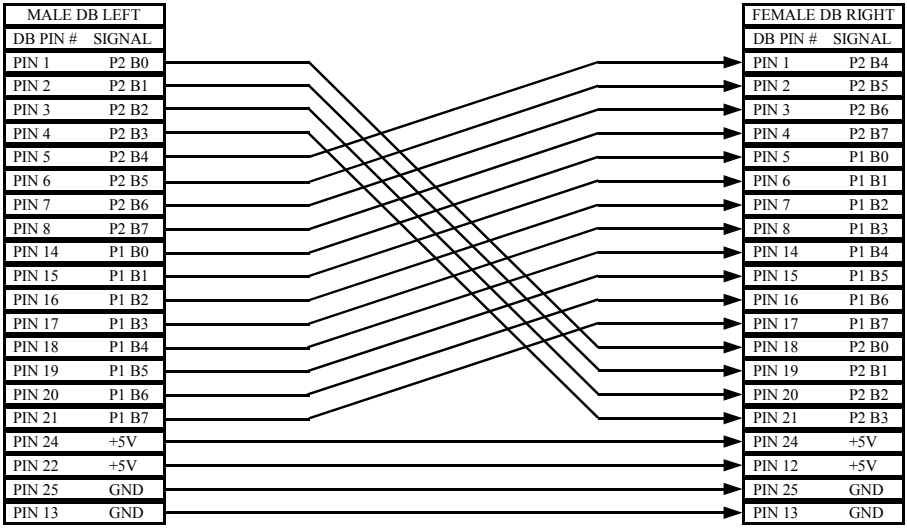
Board position and port/bit number in relation to I/O module position.



EXP-X BOARD #	I/O Module Number	I/O Port/Bit Number	I/O Module Port Pin#
1	JS1	P2B0	Pin 1
	JS2	P2B1	Pin 2
	JS3	P2B2	Pin 3
	JS4	P2B3	Pin 4
2	JS1	P2B4	Pin 5
	JS2	P2B5	Pin 6
	JS3	P2B6	Pin 7
	JS4	P2B7	Pin 8
3	JS1	P1B0	Pin 14
	JS2	P1B1	Pin 15
	JS3	P1B2	Pin 16
	JS4	P1B3	Pin 17
4	JS1	P1B4	Pin 18
	JS2	P1B5	Pin 19
	JS3	P1B6	Pin 20
	JS4	P1B7	Pin 21

Operational Characteristics

The Integrity Instruments **EXP-X** boards mate up directly to our line of I/O data acquisition modules. The boards are designed to allow expansion for up to 16 digital I/O points. If you need more than the 4 I/O points just plug in another board. This can be done for up to 4 **EXP-X** boards. All 16 I/O points, plus voltage and ground are available at the male DB 25 connector on the first board. This is accomplished by data line rollover shown in the diagram below.



Nomenclature

The boards are marked to show the specific port and bit number for each I/O point used with our data acquisition modules.

There are two ports, P1 and P2, and eight bits per port B0 to B7. The designation P2B3 is Port 2 Bit 3.

When all 4 boards are series connected, the **input end is board 1, then board 2, 3, and 4.** The marking on the board shows what port and bit number controls that I/O position on the board, depending on what board number it is in the connection series. See figures on page 3.

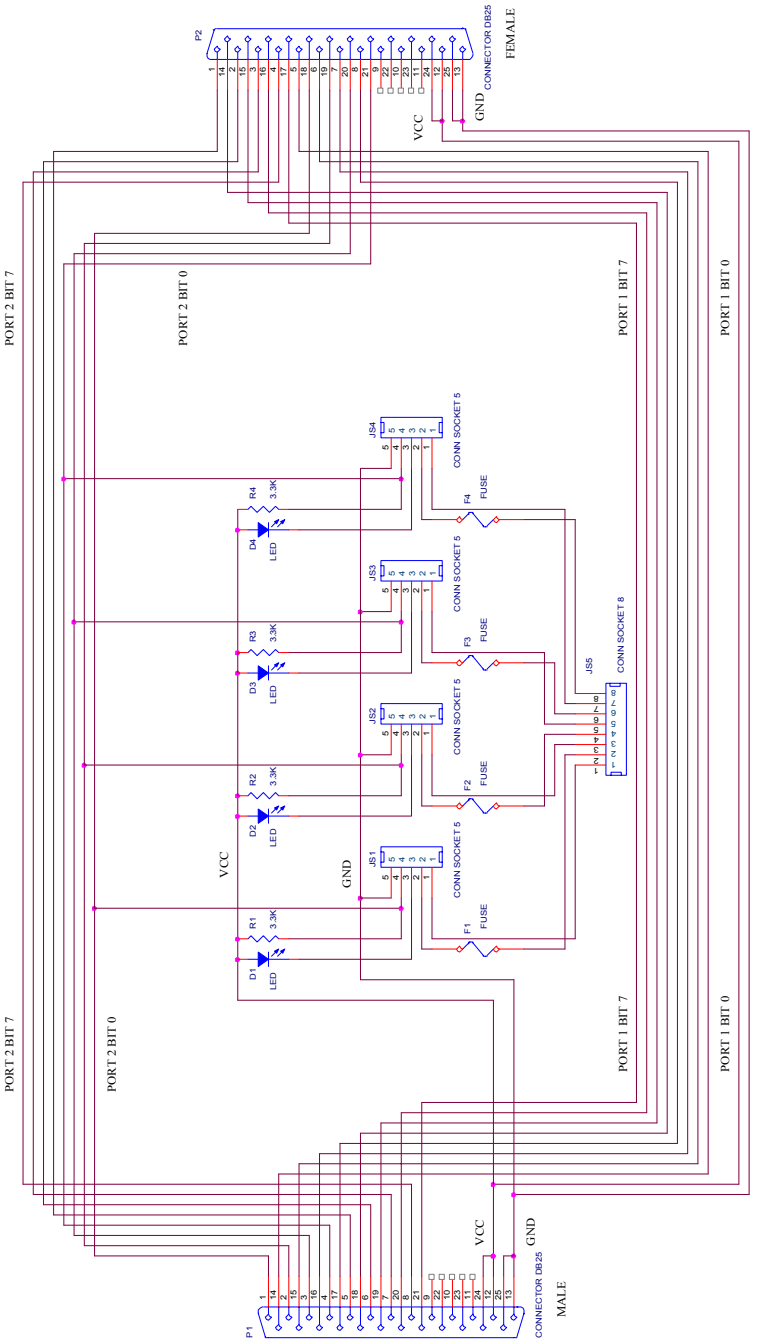
The left column in the diagram above shows the DB 25 pin number and its' relation to the specific I/O points on each board.

By using the Integrity Instruments **DB25FTS** adapter the expander board may be used with any I/O controller You need only to supply the unit with power and the proper signal lines for functionality.

MODELS:

EXP-TRK ----------Track mount in Snaptrack®
EXP-STA ----------Standoffs 1/2 inch, hollow for 6/32 mounting screws

Expander Board Schematic



PORT 2 BIT 0 TO 7

INPUT	OUTPUT
BIT 0	1 18
BIT 1	2 19
BIT 2	3 20
BIT 3	4 21
BIT 4	5 1
BIT 5	6 2
BIT 6	7 3
BIT 7	8 4

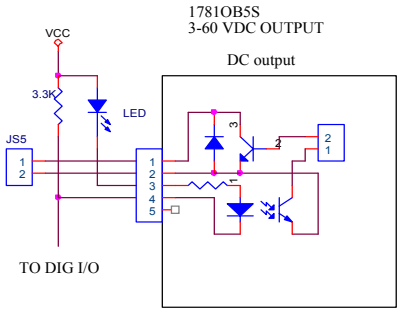
PORT 1 BIT 0 TO 7

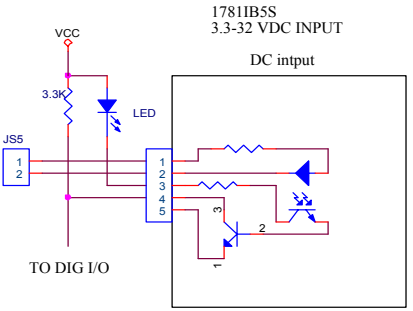
INPUT	OUTPUT
BIT 0	14 5
BIT 1	15 6
BIT 2	16 7
BIT 3	17 8
BIT 4	18 14
BIT 5	19 15
BIT 6	20 16
BIT 7	21 17

I/O Modules Specifications available from Integrity Instruments

PART NUMBER	FUNCTION	RANGE	TURN ON TIME	TURN OFF TIME
1781-IB5S	DC INPUT	3.3 to 32 VDC	.3 milli-seconds	.6 milli-seconds
1781-OB5S	DC OUTPUT	3 to 60 VDC 3A	.05 milli-seconds	.1 milli-seconds
1781-IA5S	AC INPUT	90 to 140 VAC	20 milli-seconds	30 milli-seconds
1781-OA5S	AC OUTPUT	12 to 140 VAC 3A	N/A	N/A

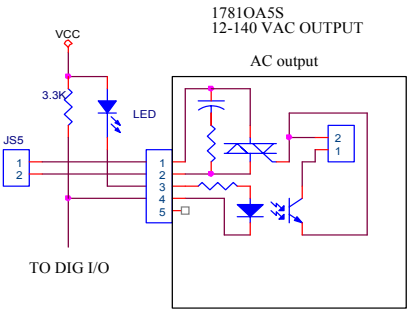
I/O Modules Internal Schematic and Exp Board Connections

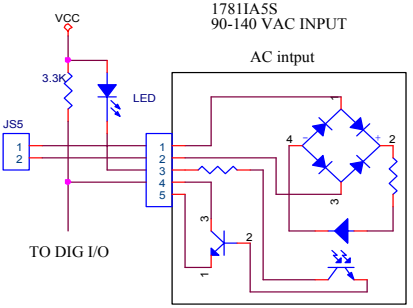




PINNING

PIN 1	+ INPUT	+ OUTPUT	
PIN 2	- INPUT	- OUTPUT	
PIN 3	VCC	VCC	
PIN 4	TO MPU	TO MPU	- AS OUT + AS IN
PIN 5	GND	GND	





Digital & Analog I/O Port Specifications:

Digital I/O	
DB25 Pins	**Description**
1	Port 2 Bit 0
2	Port 2 Bit 1
3	Port 2 Bit 2
4	Port 2 Bit 3
5	Port 2 Bit 4
6	Port 2 Bit 5
7	Port 2 Bit 6
8	Port 2 Bit 7
9	
10	
11	
12	+5Vdc
13	GND
14	Port 1 Bit 0
15	Port 1 Bit 1
16	Port 1 Bit 2
17	Port 1 Bit 3
18	Port 1 Bit 4
19	Port 1 Bit 5
20	Port 1 Bit 6
21	Port 1 Bit 7
22	
23	
24	+5Vdc
25	GND

NOTES

WARRANTY
Integrity Instruments warranties **all** products against defective workmanship and components for the life of the unit. Integrity Instruments agrees to repair or replace, at it's sole discretion, a defective product if returned to Integrity Instruments with proof of purchase. Products that have been mis-used, improperly applied, or subject to adverse operating conditions fall beyond the realm of defective workmanship and are not convered by this warranty.

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